No. 676,604. Patented June 18, 1901.

L. S. FRITZE.

MASSAGE INSTRUMENT.

(Application filed Mar. 19, 1900.)

(No Model.) 2 Sheets—Sheet 1.

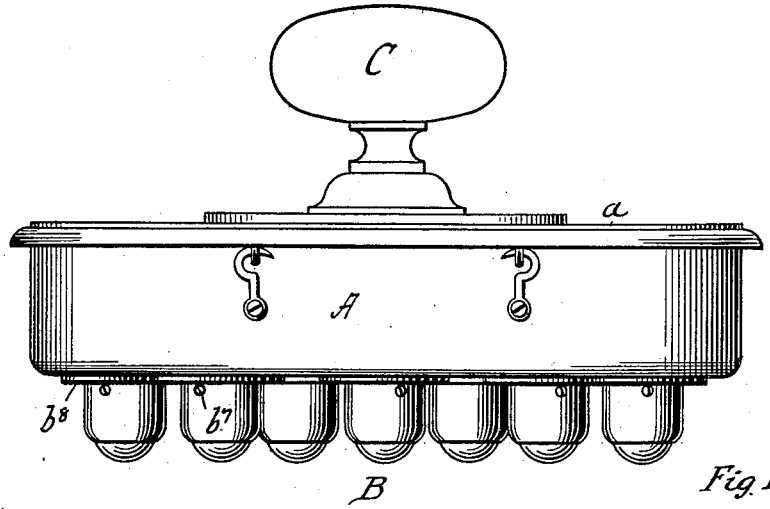

Fig. 1.

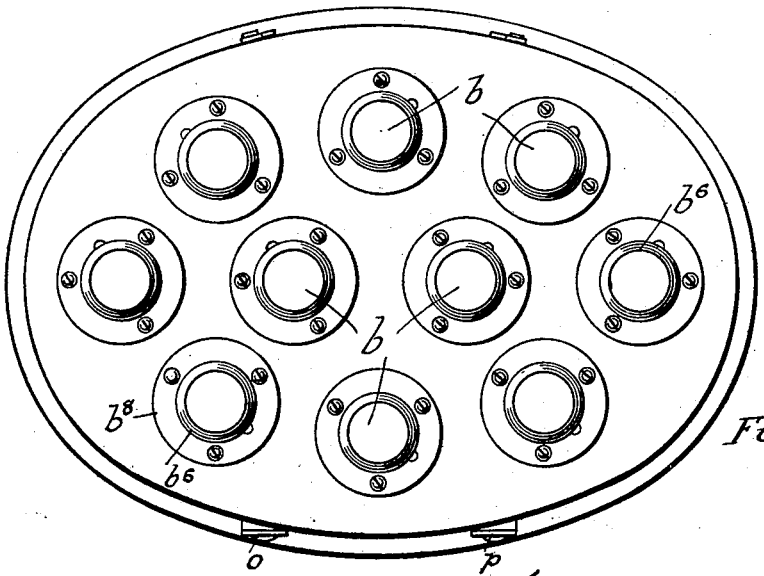

Fig. 2.

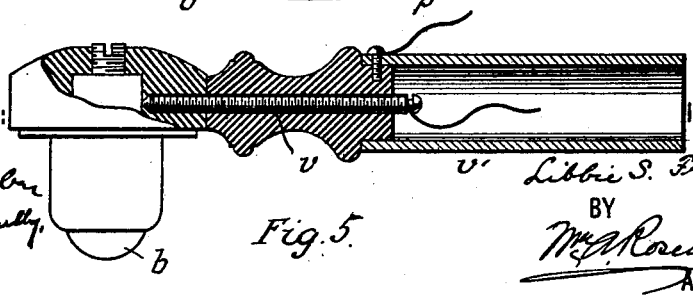

Fig. 5.

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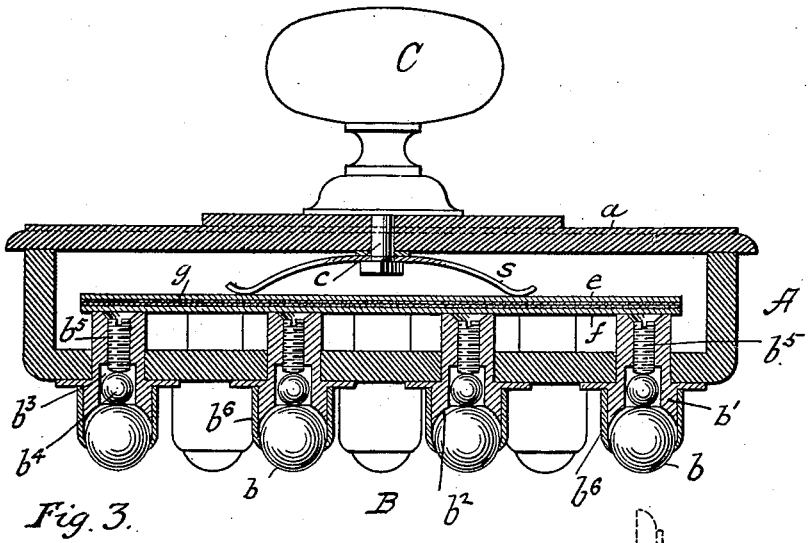

Fig. 3.

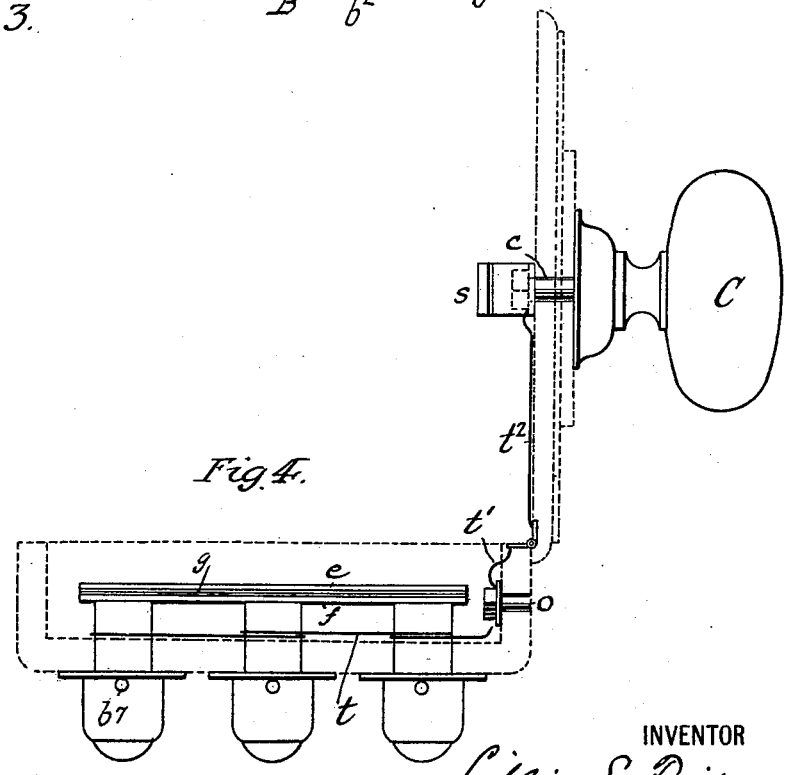

Fig. 4.

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MASSAGE INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 676,604, dated June 18, 1901.

Application filed March 19, 1900. Serial No. 9,187. (No model.)

To all whom it may concern:

Be it known that I, LIBBIE S. FRITZE, a citizen of the United States, residing at the city of New York, in the borough of Manhattan and State of New York, have invented certain new and useful Improvements in Massage Instruments, of which the following is a full, clear, and exact description.

This invention is an instrument or tool for administering massage treatment to the body and at the same time passing a current of electricity through those portions of the body which are undergoing treatment.

One object of the invention is to provide an apparatus of this character so constructed that a strong agitation or kneading of the muscles may be received by the patient without actual pain or serious inconvenience.

Another object is to provide a tool having a large rolling contact-surface which will run smoothly over the body and will avoid sliding under all conditions of use.

Another object is to provide an efficient, convenient, and compact instrument for the purposes mentioned.

In the accompanying drawings, Figure 1 is a side elevation of the instrument. Fig. 2 is a plan of the bottom thereof. Fig. 3 is a central section. Fig. 4 shows the main frame or box in dotted lines and the metallic parts in full lines and electrically connected; and Fig. 5 is a section of a modified form of the instrument, parts being in elevation.

The instrument consists in general of a frame or casing A, adapted to contain a battery, an operating-surface B on the lower side of the case, and a handle C on the upper side thereof.

The casing consists of a shallow box, preferably of wood or other non-conducting material, having a cover *a* hinged at one side thereof and being of an elliptical shape, although this is not important.

The operating-surface B consists of a plurality of metal balls *b* of comparatively large size, all mounted so that their lower surfaces will be in the same plane. Each ball is separately mounted in a socket or seat of its own. This consists of a plug b', fixed into an opening in the bottom of the case and projecting some distance both inside and outside of the case. The outer end of the plug is provided with a semispherical seat b^2, corresponding to the size of the ball *b*, and above this seat a chamber b^3 is formed for the accommodation of a second metallic ball b^4, of smaller size than the first-mentioned ball and forming a bearing against which the first ball may rest and turn. The position of this second ball is adjustable by means of a screw b^5, passing axially through the plug from the inner end and resting against the ball. The outer end of the plug forms a boss to receive a cylindrical sleeve b^6, the lower edge of which is slightly turned in below the horizontal diameter of the ball *b* to confine it. This sleeve may be held by friction upon the boss or by a lateral screw b^7. The plug is held in place by means of a flange b^8, through which screws pass into the bottom of the case. The series of balls *b*, all located in the same plane, furnish an operating-surface which will roll over the surface of the body and whose direction of movement may be altered at the pleasure of the operator without sliding. Since the balls are not mounted to turn upon a fixed axis, but are free to turn on any axis, there will always be a rolling contact between the operating-surface and the body of the patient undergoing treatment. This is an important feature of my invention, since it is well understood that the action of the roller in contradistinction to that of a shoe or mere rubbing device is more beneficial by imparting more mobility, kneading, or agitation to the muscles. For operating upon the large surfaces of the body an instrument with a number of balls is preferable; but for operating upon small surfaces, such as parts of the head and face, or in the angles of the body an instrument having a single ball is more convenient, such an instrument being shown in Fig. 5.

For manipulating the instrument conveniently a handle C is attached to the cover of the case; but this is not an essential part of the invention, inasmuch as the casing itself may be grasped in the hand of the operator. When the handle is provided, it may be secured to the center of the cover by a bolt *c*.

It is desirable to apply a current of electricity of large or small strength to the parts of the body while they are undergoing the massage treatment, and for this purpose the

casing A is made a receptacle for a galvanic battery. As shown, this battery consists of two elements *e* and *f* in the form of plates and of material occupying different places in the electrical scale and separated by a layer of porous material *g*, to be saturated with an acid or saline solution. Any number of these couples within the capacity of the case can be used. The lower plate of the battery rests upon the top of all the plugs *b'*, thus making the balls *b*, collectively, one terminal of the battery. To hold the couples of the battery in place, the top plate thereof is clamped down by a spring *s*, fastened to the bolt *c*, which secures the handle in place, and since the handle and pin are of metal the former becomes the opposite terminal of the battery. When current is to be used simultaneously with the massage treatment, the operator places his free hand upon the body of the patient, thereby completing a circuit from the upper plate of the battery through the spring, the handle, the body of the operator, the body of the patient, the balls *b*, and the lower plate of the battery. In this way a large portion of the body of the patient is traversed by the current, and in every instance nearly the entire muscle which is being mechanically agitated is subject to the electrical treatment.

The instrument is also equipped to enable the use of an external source of electricity, it being provided with two binding-posts *o* and *p*, to which the terminals of such a source may be connected. From one of the posts a wire *t* leads to each of the plugs *b'*, around which it takes a turn. From the other post a wire *t'* leads to the hinge of the cover, and thence a wire t^2 leads to the bolt *c*. The circuit through the body of the patient is now the same as before, it being completed through the body of the operator.

It will be understood that an induction-coil and vibrator may be used in either of the circuits described and that for compactness such apparatus might be placed in or upon the case A.

The instrument shown in Fig. 5, as before stated, is for manipulating the face and smaller surfaces of the body. The handle may be hollow, as shown, for the purpose of containing a battery and induction-coil, one or both, or to admit a flexible conductor for connection with the terminal *v*, which leads to the ball and to the handle *v'*, which is of metal.

Having described my invention, I claim—

1. In a massage instrument, the combination of a case, plurality of balls all located in the same plane and constituting the operating-surface, plugs passing through the wall of the case in the outer ends of which the balls are respectively seated, a second ball behind each of the others and housed in the plug and an axial screw entering the opposite end of the plug and bearing against the second ball, substantially as described.

2. A massage instrument consisting of a case a source of electricity located inside thereof, a handle and an operating-surface located outside of the case and on opposite sides thereof, said handle and surface being the opposing terminals of the source of electricity.

3. In a massage instrument, the combination of a frame provided with a plurality of independent balls free to turn on any axis, and together constituting the operating-surface, and a source of electricity, said balls collectively forming one terminal of said source, substantially as described.

4. A massage instrument consisting of a casing a plurality of operating-surfaces attached to one wall thereof and being electrically exposed inside of the casing, galvanic elements located inside of the casing, one of which is in contact with the electrically-exposed portions of the operating-surfaces, a spring attached to another wall of said casing and bearing upon another of said galvanic elements and a handle electrically connected with the spring.

In witness whereof I subscribe my signature in presence of two witnesses.

LIBBIE S. FRITZE.

Witnesses:
JOHN A. BULLINGER,
WM. MARSHALL.